

APRIL/MAY 2025

**23UEMB22 — BIOINSTRUMENTATION
(Elective)**

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Differentiate moist heat and dry heat.
2. What is buffer?
3. What are the units to measure the wave length of electromagnetic radiation?
4. What is MALDI?
5. What is the principle of electrophoresis?
6. Expand HPLC.
7. What is positron?
8. Define QRS complex.
9. What is Stokes effect?
10. Define beta emission.



SECTION B — ($5 \times 5 = 25$ marks)

Answer ALL questions.

11. (a) Explain about the functioning of pH meter.

Or

- (b) Explain how laminar air flow chamber works.

12. (a) What is calorimeter? What are its various biological applications?

Or

- (b) Write shortly about mass spectroscopy.

13. (a) Comment on thin layer chromatography.

Or

- (b) Elaborate the steps in AGE.

14. (a) Give a brief note on MRI.

Or

- (b) Write about principle, instrumentation and applications of CT scanner.

15. (a) Write a note about scintillation counter.

Or

- (b) Explain the technique autoradiography.

SECTION C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Write detailed note on the followings :

- (a) Autoclave
(b) Hot air oven.

17. Explain in detail about working principle, instrumentation and applications of UV-Vis spectroscopy.

18. Illustrate HPLC technique.

19. Describe ECG.

20. Discuss about principle, instrument and uses of spectrofluorimeter.

